IN THE CLAIMS:

Please amend the claims to read as follows:

1-23. (canceled)

24. (currently amended) A system comprising:

(a) a light source ~~and connecting fiber optics~~;

(b) ~~a near infrared band pass filter;~~

~~(c)~~ a pickup optode unit for detecting light from the light source;

(c) ~~(d)~~ a ~~dual wave interval~~ spectrophotometer coupled to the pickup optode unit for sensing and recording a NIR wavelength interval including cytochrome oxidase, water and hemoglobin data;

(d) ~~(c)~~ a personal computer with a software algorithm to separate the cytochrome oxidase, water and hemoglobin ~~absorbance curves~~ data for evaluation ~~and display~~.

25. (original) The system of claim 24, wherein the light source is a stabilized pulsed light.

26. (currently amended) A method of using the system of claim 24 to monitor the change of any natural or manmade chromophore existing in ~~the~~ a person's brain to assist in the diagnosis or treatment of a neurological or psychotic disorder, comprising:

using the light source to illuminate a person's cerebral tissue;

using the pickup optode unit to detect light from the person's cerebral tissue;

using the spectrophotometer to sense and record a NIR wavelength interval including cytochrome oxidase, water and hemoglobin data;

using the personal computer and the software algorithm to separate the cytochrome oxidase, water and hemoglobin data for evaluation.

27. (canceled)

28. (previously presented) The invention of claim 24, wherein the spectrophotometer monitors relative changes in redox levels in real-time.

29. (currently amended) The invention of claim 24, wherein the software algorithm uses Fourier transforms ~~are used~~ in analyses of near infrared data obtained from the spectrophotometer.

30. (currently amended) The invention of claim 24, wherein:

the spectrophotometer includes:

a background pickup device which receives photons that have traversed ~~the~~ a patient's scalp and skull but not deep enough to reach the patient's cerebral cortex,

a sample pickup device that is positioned to receive photons that have traversed the patient's scalp, skull dura matter, and pia, and

the background signal is subtracted from the sample signal by the software algorithm to result in a signal representing the patient's cerebral cortex.

31. (original) The system of claim 24, wherein the light source is a quartz halogen 150 watt light source.

32. (original) The system of claim 24, wherein the NIR wavelength interval is about 700-1050 nm.

33-39. (canceled)

40. (currently amended) The invention of claim 24, comprising means for monitoring ~~wherein~~ oxygen in cerebral tissue ~~is monitored~~ by monitoring cytochrome oxidase in ~~the~~ a patient's cerebral tissue.

41. (currently amended) The invention of claim 24, comprising means for monitoring ~~wherein~~ oxygen in cerebral tissue ~~is monitored~~ by monitoring the redox ~~ration~~ ratio of cytochrome oxidase in the cerebral tissue.

42. (canceled)

43. (previously presented) The method of claim 26, wherein the light source is a stabilized pulsed light.

44. (previously presented) The method of claim 26, wherein the spectrophotometer monitors relative changes in redox levels in real-time.

45. (currently amended) The method of claim 26~~4~~, wherein Fourier transforms are used in analyses of near infrared data obtained from the spectrophotometer.

46. (currently amended) The method of claim 26, wherein:

the spectrophotometer includes:

a background pickup device which receives photons that have traversed the patient's scalp and skull but not deep enough to reach the patient's cerebral cortex,

a sample pickup device that is positioned to receive photons that have traversed the patient's scalp, skull dura matter, and pia, and

the background signal is subtracted from the sample signal by the algorithm to result in a signal representing the patient's cerebral cortex.

47. (previously presented) The method of claim 26, wherein the light source is a quartz halogen 150 watt light source.

48. (previously presented) The method of claim 26, wherein the NIR wavelength interval is about 700-1050 nm.

49. (previously presented) The method of claim 26, wherein oxygen in cerebral tissue is monitored by monitoring cytochrome oxidase in the cerebral tissue.

50. (currently amended) The method of claim 26, wherein oxygen in cerebral tissue is monitored by monitoring the redox ~~ration~~ ratio of cytochrome oxidase in the patient's cerebral tissue.

51. (new) The system of claim 24, further comprising connecting fiber optics attached to the light source.

52. (new) The system of claim 51, further comprising a near infrared band pass filter and wherein the spectrophotometer is a dual wave interval spectrophotometer.

53. (new) The system of claim 24, further comprising a near infrared band pass filter.

54. (new) The system of claim 24, wherein the spectrophotometer is a dual wave interval spectrophotometer.